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=> s antibody production
L1 71694 ANTIBODY PRODUCTION

=> s l1 and high yield
L2 101 L1 AND HIGH YIELD

=> s l2 and framework modification
L3 0 L2 AND FRAMEWORK MODIFICATION

=> s l2 and modified
L4 12 L2 AND MODIFIED

=> s l4 and framework
L5 0 L4 AND FRAMEWORK

=> dup remove l4
PROCESSING COMPLETED FOR L4
L6 6 DUP REMOVE L4 (6 DUPLICATES REMOVED)

=> d l6 1-6 cbib abs

L6 ANSWER 1 OF 6 MEDLINE on STN
2006473807. PubMed ID: 16896231. Cosecretion of protease inhibitor stabilizes antibodies produced by plant roots. Komarnytsky Slavko; Borisjuk Nikolai; Yakoby Nir; Garvey Alison; Raskin Ilya. (Biotech Center, Rutgers University, New Brunswick, New Jersey 08901, USA.. komar@aesop.rutgers.edu) . Plant physiology, (2006 Aug) Vol. 141, No. 4, pp. 1185-93. Journal code: 0401224. ISSN: 0032-0889. Pub. country: United States. Language: English.

AB A plant-based system for continuous production of monoclonal antibodies based on the secretion of immunoglobulin complexes from plant roots into a hydroponic medium (rhizosecretion) was engineered to produce high levels of single-chain and full-size immunoglobulins. Replacing the original signal peptides of monoclonal antibodies with a plant-derived calreticulin signal increased the levels of antibody yield 2-fold. Cosecretion of Bowman-Birk Ser protease inhibitor reduced degradation of the immunoglobulin complexes in the default secretion pathway and further increased **antibody production** to 36.4 microg/g root dry weight per day for single-chain IgG1 and 21.8 microg/g root dry weight per day for full-size IgG4 antibodies. These results suggest that constitutive cosecretion of a protease inhibitor combined with the use of the plant signal peptide and the antibiotic marker-free transformation

system offers a novel strategy to achieve **high yields** of complex therapeutic proteins secreted from plant roots.

L6 ANSWER 2 OF 6 EMBASE COPYRIGHT (c) 2007 Elsevier B.V. All rights reserved on STN

1998327532 EMBASE A recombinant soluble form of the integrin $\alpha(\text{IIb})\beta 3$ (GPIIb-IIIa) assumes an active, ligand-binding conformation and is recognized by GPIIb-IIIa-specific monoclonal, allo-, auto-, and drug-dependent platelet antibodies. Peterson J.A.; Visentin G.P.; Newman P.J.; Aster R.H.. Dr. J.A. Peterson, Blood Research Institute, 8727 Watertown Plank Rd., Milwaukee, WI 53226-3584, United States. Blood Vol. 92, No. 6, pp. 2053-2063 15 Sep 1998. Refs: 49.

ISSN: 0006-4971. CODEN: BLOOAW

Pub. Country: United States. Language: English. Summary Language: English. Entered STN: 19981109. Last Updated on STN: 19981109

AB The IIb-IIIa glycoprotein complex is a favored target for allo-, auto-, and drug-dependent antibodies associated with immune thrombocytopenia. A soluble, recombinant form of the GPIIb-IIIa heterodimer that could be produced in large quantities and maintained in solution without detergent could provide a useful experimental tool for the study of platelet-reactive antibodies, but previous attempts to produce such a construct have yielded only small quantities of the end product. Using a baculovirus expression system and the dual-promoter transfer vector P2Bac, we were able to express soluble GPIIb-IIIa complex (srGPIIb-IIIa) lacking cytoplasmic and transmembrane domains in quantities of about 1,000 $\mu\text{g/L}$, about 40 times greater than reported previously. The **high yield** achieved may be related to inclusion of the entire extracellular region of the GPIIb light chain in the construct. srGPIIb-IIIa reacts spontaneously with fibrinogen, and this interaction is totally inhibited by the peptide RGDS. Reactions of 24 GPIIb-IIIa-specific antibodies evaluated (12 monoclonal, 3 allo-specific, 3 auto-specific, and 6 drug-dependent) with srGPIIb-IIIa were indistinguishable from reactions with platelet GPIIb-IIIa. Thus, srGPIIb-IIIa spontaneously assumes an active, ligand-binding conformation and contains epitopes for all monoclonal and human antibodies tested to date. srGPIIb-IIIa can be produced in large quantities, can readily be **modified** by site-directed mutagenesis, and should facilitate identification of epitopes recognized by GPIIb-IIIa-specific antibodies, study of the mechanism(s) by which certain drugs promote antibody binding to GPIIb-IIIa in drug-induced thrombocytopenia and structure-function relationships of GPIIb-IIIa.

L6 ANSWER 3 OF 6 MEDLINE on STN DUPLICATE 1

88009184. PubMed ID: 3655377. Effect of feeding rate on monoclonal **antibody production** in a **modified** perfusion-fed fermentor. Velez D; Reuveny S; Miller L; Macmillan J D. (Department of Biochemistry and Microbiology, New Jersey Agricultural Experiment Station, Rutgers University, New Brunswick, NJ 08903.) Journal of immunological methods, (1987 Sep 24) Vol. 102, No. 2, pp. 275-8. Journal code: 1305440. ISSN: 0022-1759. Pub. country: Netherlands. Language: English.

AB Previously we described a perfusion system for production of **high yields** of monoclonal antibodies in a fermentor. This system incorporated a cylindrically shaped, stainless steel filter mounted around the stirring shaft for retention of cells within a 1 liter fermentor. Modification of this filter by increasing the pore size from 5 micron to 10 micron decreased its tendency to clog and allowed continuous operation for about 3 weeks. Fresh culture medium, containing 6.5 mg glucose/ml and 3% horse serum, was supplied continually at two different perfusion rates, 850 and 1100 ml/day. Spent culture medium containing monoclonal antibody was harvested concomitantly. Highest cell density ($5 \times 10^7/\text{ml}$) and best antibody yield (1.7 g/l culture per day) were obtained at the higher feeding rate.

L6 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN

1986:184775 Document No. 104:184775 Methods and cell lines for immortalization and monoclonal **antibody production** by antigen-stimulated B-lymphocytes. Kaplan, Henry S.; Teng, Nelson N. H.; Lam, Kit S.; Calvo-Riera, Francisco (Leland Stanford Junior University, USA). U.S. US 4574116 A 19860304, 6 pp. (English). CODEN: USXXAM. APPLICATION: US 1983-457795 19830113.

AB A method for efficiently producing human monoclonal antibodies by mouse-human heterohybridomas is described. An immortalized human myeloma cell line is **modified** by introducing a selectable dominant resistance marker. The resulting hypoxanthine-aminopterin-thymidine (HAT)-sensitive, selectable agent resistant human cell line is fused with a HAT-sensitive, immortalized mouse (or rat) myeloma cell line (which preferentially has been treated with chromosome-damaging agents, such as x-rays) and incubated in the presence of appropriate selection agents. The result is a **high yield** of viable mouse-human heteromyelomas in which ≥ 1 human chromosomes are stably retained. After cloning the most rapidly growing hybrid myeloma cells, the resulting HAT-sensitive hybrid cells may be fused with antigen-sensitized human B-lymphocytes for the stable production of human monoclonal antibodies.

L6 ANSWER 5 OF 6 MEDLINE on STN

DUPLICATE 2

83266915. PubMed ID: 6409964. Improved conditions for the production of monoclonal antibodies to carcinogen-**modified** DNA, for use in enzyme-linked immunosorbent assays (ELISA). Hertzog P J; Shaw A; Lindsay Smith J R; Garner R C. Journal of immunological methods, (1983 Aug 12) Vol. 62, No. 1, pp. 49-58. Journal code: 1305440. ISSN: 0022-1759. Pub. country: Netherlands. Language: English.

AB The methodology for the production of monoclonal antibodies to chemical carcinogen-**modified** DNA has been improved to provide **high yields** of hybridomas, using guanine-imidazole ring-opened aflatoxin B1-**modified** DNA as an example (iro-AFB1 DNA). The percentage of immunised mice which responded to iro-AFB1 DNA-protein immunisation and the number of specific hybridomas produced was dependent on the level of modification of DNA. One in three BALB/c mice had detectable (but low) antibody titre when 0.3% **modified** iro-AFB1 DNA was used and this yielded 2 specific hybridomas, whereas all mice responded at reasonable titres and 6 specific hybridomas were obtained when 3% **modified** iro-AFB1 DNA was used. Other factors found to improve the number and titre of mice responding to immunisation and the yield of hybridomas were: KLH greater than BSA as carrier protein, C57 BL/6 X BALB/c F1 greater than BALB/c mice for **antibody production**, fusion success and ascites growth. The conditions limiting the sensitivity and reproducibility of an enzyme-linked immunosorbent assay (ELISA) using these monoclonal antibodies with beta-galactosidase-linked sheep F(ab')₂ anti-mouse IgG as the second antibody were also tested. Present experience with AFB1 and other carcinogens indicates that these methods should be applicable to the production of monoclonal antibodies to DNA **modified** by a wide variety of chemical carcinogens.

L6 ANSWER 6 OF 6 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN

1981:257486 Document No.: PREV198172042470; BA72:42470. SEPARATION OF M PROTEIN FROM INFLUENZA VIRUS BY AGAROSE GEL ELECTROPHORESIS. LECOMTE J [Reprint author]; CROTEAU G. CENTRE DE RECHERCHE EN VIROLOGIE, INSTITUT ARMAND-FRAPPIER, 531 BLVD, DES PRAIRIES, LAVAL, QUEBEC H7V 1B7, CANADA. Journal of Virological Methods, (1981) Vol. 2, No. 4, pp. 211-222. CODEN: JVMEHD. ISSN: 0166-0934. Language: ENGLISH.

AB A simple procedure for obtaining a **high yield** of electrophoretically and immunologically pure M-protein from influenza virus by agarose gel electrophoresis is described. The electrophoretic pattern thus obtained is amenable to direct identification by a **modified** counter-immunoelectrophoresis procedure and by SDS[sodium dodecyl sulfate]-polyacrylamide gel electrophoresis. Antibodies can also be produced by injecting animals with protein-agarose complexes, bypassing

any extraction procedures.

=> s l1 and modified framework
L7 0 L1 AND MODIFIED FRAMEWORK

=> s antibod?
L8 3011979 ANTIBOD?

=> s l8 and modified framework
L9 4 L8 AND MODIFIED FRAMEWORK

=> dup remove l9
PROCESSING COMPLETED FOR L9
L10 4 DUP REMOVE L9 (0 DUPLICATES REMOVED)

=> d l10 1-4 cbib abs

L10 ANSWER 1 OF 4 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN 2007:186053 Document No.: PREV200700192359. Immunocytokine sequences and uses thereof. Anonymous; Gillies, Stephen D. [Inventor]; Lo, Kin-Ming [Inventor]; Qian, Susan X. [Inventor]. Carlisle, MA USA. ASSIGNEE: EMD Lexigen Research Center Corp. Patent Info.: US 07169904 20070130. Official Gazette of the United States Patent and Trademark Office Patents, (JAN 30 2007)

CODEN: OGUPE7. ISSN: 0098-1133. Language: English.
AB The invention provides a family of **antibodies** that specifically bind the human cell surface glycosphingolipid GD2. The **antibodies** comprise modified variable regions, more specially, **modified framework** regions, which reduce their immunogenicity when administered to a human. The **antibodies** may be coupled to a therapeutic agent and used in the treatment of cancer.

L10 ANSWER 2 OF 4 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN 2006:308336 Document No.: PREV200600313321. Recombinant tumor specific **antibody** and use thereof. Gillies, Stephen D. [Inventor]; Lo, Kin-Ming [Inventor]; Qian, Susan X. [Inventor]. Carlisle, MA USA. ASSIGNEE: EMD Lexigen Research Center Corp.. Patent Info.: US 06969517 20051129. Official Gazette of the United States Patent and Trademark Office Patents, (NOV 29 2005)

CODEN: OGUPE7. ISSN: 0098-1133. Language: English.
AB The invention provides a family of **antibodies** that specifically bind the human epithelial cell adhesion molecule. The **antibodies** comprise modified variable regions, more specially, **modified framework** regions, which reduce their immunogenicity when administered to a human. The **antibodies**, when coupled to the appropriate moiety, may be used in the diagnosis, prognosis and treatment of cancer.

L10 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN 2004:534239 Document No. 141:87784 Humanized mouse anti-human GD2 **antibody** fusion with IL-2 for cancer therapy. Gillies, Stephen D.; Lo, Kin-ming (Merck Patent GmbH, Germany). PCT Int. Appl. WO 2004055056 A1 20040701, 51 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2003-EP14295 20031216. PRIORITY: US 2002-433945P 20021217.

AB The invention provides humanized mouse **antibody** 14.18 binding the human cell surface glycosphingolipid GD2. The **antibody**

comprises modified variable regions, more specially, **modified framework** regions, which reduce their immunogenicity when administered to a human. The **antibody** may be coupled to the therapeutic agent such as IL-2 and used in the treatment of cancer.

L10 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN

2002:869105 Document No. 137:368582 Chimeric proteins comprising **antibody** specific to human epithelial cell adhesion molecule and cytokine for cancer diagnosis, prognosis and therapy. Gillies, Stephen D.; Lo, Kin-Ming; Qian, Xiuqi (Lexigen Pharmaceuticals Corp., USA). PCT Int. Appl. WO 2002090566 A2 20021114, 82 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2002-US13844 20020503. PRIORITY: US 2001-288564P 20010503.

AB The invention provides a family of **antibodies** that specifically bind the human epithelial cell adhesion mol. The **antibodies** comprise modified variable regions, more specially, **modified framework** regions, which reduce their immunogenicity when administered to a human. The **antibodies**, when coupled to the appropriate moiety, may be used in the diagnosis, prognosis and treatment of cancer.

=> s l8 and aligning

L11 214 L8 AND ALIGNING

=> s l11 and hypervariable region

L12 5 L11 AND HYPERVARIABLE REGION

=> s l12 and consensus sequence

L13 5 L12 AND CONSENSUS SEQUENCE

=> s l13 and framework residues

L14 0 L13 AND FRAMEWORK RESIDUES

=> dup remove l13

PROCESSING COMPLETED FOR L13

L15 1 DUP REMOVE L13 (4 DUPLICATES REMOVED)

=> d l15 cbib abs

L15 ANSWER 1 OF 1 MEDLINE on STN DUPLICATE 1

1998308025. PubMed ID: 9642095. Automated classification of **antibody** complementarity determining region 3 of the heavy chain (H3) loops into canonical forms and its application to protein structure prediction. Oliva B; Bates P A; Querol E; Aviles F X; Sternberg M J. (Universitat Autònoma de Barcelona, 08193 Bellaterra, Barcelona, Spain.) Journal of molecular biology, (1998 Jun 26) Vol. 279, No. 5, pp. 1193-210. Journal code: 2985088R. ISSN: 0022-2836. Pub. country: ENGLAND: United Kingdom. Language: English.

AB A computer-based algorithm was used to cluster the loops forming the complementarity determining region (CDR) 3 of the heavy chain (H3) into canonical classes. Previous analyses of the three-dimensional structures of CDR loops (also known as the **hypervariable regions**) within **antibody** immunoglobulin variable domains have shown that for five of the six CDRs there are only a few main-chain conformations (known as canonical forms) that show clear relationships between sequence and structure. However, the larger variation in length and conformation of loops within H3 has limited the classification of these loops into

canonical forms. The clustering procedure presented here is based on **aligning** the Ramachandran-coded main-chain conformation of the residues using a dynamic algorithm that allows the insertion of gaps to obtain an optimum alignment. A total of 41 H3 loops out of 62 non-identical loops, extracted from the Brookhaven Protein Data Bank, have been automatically grouped into 22 clusters. Inspection of the clusters for **consensus sequences** or intra-loop interactions or invariant conformation led to the proposal of 13 canonical forms representing 31 loops. These canonical forms include a consideration of the geometry of both the take-off region adjacent to the bracing beta-strands and the remaining loop apex. Subsequently a new set of 15 H3 loops not included in the initial analysis was considered. The clustering procedure was repeated and nine of these 15 loops could be assigned to original clusters, including seven to canonical forms. A sequence profile was generated for each canonical form from the original set of loops and matched against the sequences of the new H3 loops. For five out of the seven new H3 loops that were in a canonical form, the correct form was identified at first rank by this predictive scheme.
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L1      71694 S ANTIBODY PRODUCTION
L2      101 S L1 AND HIGH YIELD
L3      0 S L2 AND FRAMEWORK MODIFICATION
L4      12 S L2 AND MODIFIED
L5      0 S L4 AND FRAMEWORK
L6      6 DUP REMOVE L4 (6 DUPLICATES REMOVED)
L7      0 S L1 AND MODIFIED FRAMEWORK
L8      3011979 S ANTIBOD?
L9      4 S L8 AND MODIFIED FRAMEWORK
L10     4 DUP REMOVE L9 (0 DUPLICATES REMOVED)
L11     214 S L8 AND ALIGNING
L12     5 S L11 AND HYPERVARIABLE REGION
L13     5 S L12 AND CONSENSUS SEQUENCE
L14     0 S L13 AND FRAMEWORK RESIDUES
L15     1 DUP REMOVE L13 (4 DUPLICATES REMOVED)
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